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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/672,647

09/26/2003

Malome T. Khomo

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EXAMINER

SHAPIRO, LEONID

ART UNIT

PAPER NUMBER

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/672,647

Applicant(s)

KHOMO, MALOME T.

Examiner

Leonid Shapiro

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15 is/are rejected.
- 7) ☐ Claim(s) 13-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3,5-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Baron et al. (WO 96/21436).

As to claim 1, Baron et al. teaches a method for spatially reading handwritten symbols (page 2, 2<sup>nd</sup> full paragraph), the method comprising:

defining a spatial three dimensional volume (fig. 1, items XYZ, 10, page 9, 1<sup>st</sup> full paragraph);

deploying a writing tip within the spatial three dimensional volume (page 9, 1<sup>st</sup> full paragraph);

writing a handwritten symbol with the writing tip (fig. 1, item 37);

measuring positions of the writing tip within the volume as the handwritten symbol is being executed (fig.3, items 120-150, from page 9, last paragraph to page 10, 2<sup>nd</sup> full paragraph);

measuring motions of the writing tip within the volume as the handwritten symbol is executed (fig. 4, items 410-470, pages 10-13); and

identifying two dimensional handwritten symbols from the measured three dimensional positions and motions of the writing tip (fig. 6, items 630-660, from page 15, 4<sup>th</sup> full paragraph to page 16, 3<sup>rd</sup> full paragraph).

As to claim 2, Baron et al. teaches defining a plane corresponding to an X-Y plane; locating an origin in space proximate the plane (fig. 4, item 712, page 12); defining a Z-axis orthogonal to the X-Y plane (fig. 7B, item 430, page 17); and applying a reference coordinate system to define all points relative to one of the origin, the X-Y plane, the Z-axis, and angular relations corresponding to a position of the writing tip (fig. 7B, item 820, pages 20-21).

As to claim 3, Baron et al. teaches applying Cartesian coordinates (fig. 1, item XYZ).

As to claim 5, Baron et al. teaches a user grasping a writing stylus and performing a writing upon a writing area of a handwritten symbol reader (page 2, 4<sup>th</sup> full paragraph).

As to claims 6-11, Baron et al. teaches measuring positions of the writing tip within the volume comprises measuring changes in an electrical component over time as the writing tip is moved from position to position during a writing (fig. 3, items 120, 130 and fig. 4, item 430).

2. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Baron et al. (WO 99/26191).

As to claim 1, Baron teaches a device for spatially reading handwritten symbols (page 1, lines 11-14), the device comprising:

a platform having a fiat surface (fig. 3, page 9, lines 7-11); and

a spatial tracking assembly positioned adjacent to and rotatably engaging a planar writing area selected from the fiat surface of the platform, the spatial tracking assembly being configured to slidably accept a writing stylus and to rotate with the stylus at least about an axis parallel to the fiat surface; whereby a stylus tip of the writing stylus is adapted to trace a three dimensional path in a volume above the fiat surface of the platform (figs 1-2, from page 6, line 29 to page 7, line 5).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baron et al. in view of Baron.

As to claim 4, Baron et al. does not disclose inserting a writing stylus into a receptacle in a bracket mounted on a boom in a handwritten symbol reader.

Baron teaches inserting a writing stylus into a receptacle in a bracket mounted on a boom in a handwritten symbol reader (fig. 2, item 46, page 7, last paragraph).

It would have been obvious to one ordinary skill in the art at the time of the invention to incorporate teachings of the Baron into Baron et al. system in order to use mechanical apparatus for freehand drawing (page 4, 3<sup>rd</sup> paragraph in the Baron reference).

As to claim 12, Baron et al. teaches identifying a two dimensional handwritten symbol from measured three dimensional positions and motions of the writing tip comprises determining measurement coordinates relative to a reader fulcrum pivot and an associated time coordinate (fig. 2, item 46, page 7, last paragraph).

***Allowable Subject Matter***

4. Claims 13-14, 16-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relative to claim 13 the major difference between the teaching of the prior art of record (Baron, Baron et al.) and the instant invention is that identifying a two dimensional handwritten symbol from measured three dimensional positions and motions of the writing tip comprises: aligning an X-Y plane adjacent a writing portion of a writing platform; aligning a Z-axis with a ray pointing outward perpendicularly from the writing platform; defining the origin to be apart from the writing platform; and projecting the three dimensional position and motions onto a two dimensional plane.

Relative to claim 14 the major difference between the teaching of the prior art of record (Baron, Baron et al.) and the instant invention is that identifying a two dimensional handwritten symbol from measured three dimensional positions and motions of the writing tip comprises: measuring motions over time along two orthogonal axes of rotation and along a radial distance; applying a rotary first measurement to

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span rotation in a projection plane over the flat surface of the platform; applying a rotary second measurement to span an angular elevation fi'om the projection plane; and applying a radial third measurement of linear distance from a reader fulcrum pivot along the elevation.

Relative to claim 16 the major difference between the teaching of the prior art of record (Baron, Baron et al.) and the instant invention is that the spatial tracking assembly comprises:

a boom;

an assembly support pinion providing rotatable engagement with the flat surface of the platform;

a fulcrum housing having a fulcrum bracket connected to the assembly support pinion;

a fulcrum pinion rotatably engaging the fulcrum housing orthogonally to the assembly support pinion; and

a securing means for rotatably securing the spatial tracking assembly to the flat surface of the platform, the securing means comprising:

a restricting flange on one end of the assembly support pinion;

a locking feature on another end of the assembly support pinion; and

a locking member mating with the locking feature to lock the assembly support pinion in the platform, whereby the spatial tracking assembly is adapted to rotate at least two dimensionally with respect to the flat surface of the platform.

Claims 17-22 depend on claim 16.


***Telephone Inquire***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS  
12.27.06



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